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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

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In re Application of: : Examiner: Jonathan Crepeau
Olaf DUEBEL et al. :
: :
For: FUEL CELL SYSTEM AND METHOD :
FOR GENERATING ELECTRICAL :
ENERGY USING A FUEL CELL SYSTEM :
: Art Unit: 1746
: :
Filed: June 7, 2001 :
: :
Serial No.: 09/700,833 :
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Clifford A. Ulrich (Reg. No. 42,194)

REPLY BRIEF UNDER 37 C.F.R. § 41.41

SIR:

Appellants submit the present Reply Brief in response to the Examiner's Answer dated June 27, 2005.

For the reasons set forth in the Appeal Brief and those set forth below, it is again respectfully submitted that the final rejections of claims 17 to 31 should be reversed.

Claims 1 to 16, 41, and 42 have been canceled. Claims 32 to 40 have been allowed. Claims 17 to 31 have been finally rejected.

Appellants incorporate herein arguments previously presented in the Appeal Brief filed on April 14, 2005. In addition, the following comments are presented to further highlight the differences between the claimed subject matter and the applied prior art references.

Claims 17, 19, 30, and 31 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,120,925 (“Kawatsu et al.”). For at least the reasons set forth below and in the Appeal Brief, the rejection of claims 17, 19, 30, and 31 should be reversed.

As set forth in the Appeal Brief, Kawatsu et al. do not disclose, or even suggest, a system in which a reduced amount of supplemental oxygen containing gas is supplied based on an amount of oxygen supplied by injected water.

Throughout prosecution of the present application, it has been repeatedly admitted that, according to Kawatsu et al., “water does not participate in the oxidation reaction.” Final Office Action at paragraph 9 and Office Action dated October 14, 2004 at page 8. In the Examiner’s Answer, it is admitted that Kawatsu et al. do not disclose this feature, but instead asserts that this feature is merely a method of operation, rather than a structural attribute. For the fuel-cell system of claim 17 to supply a reduced amount of a supplemental oxygen containing substance based on oxygen supplied by water injected by a water-injection device, the fuel-cell system must be arranged in a particular manner that provides for this feature. Therefore, this feature is not merely an intended use, but rather serves to precisely define a *present structural attribute* of the fuel-cell system.

Furthermore, as set forth in the Appeal Brief, Kawatsu et al. do not disclose, or even suggest, a fuel-cell system in which an oxidation device is configured to convert carbon monoxide into carbon dioxide by a reaction of carbon monoxide with oxygen supplied by water injected by a water-injection device.

In the Examiner’s Answer, it is admitted that Kawatsu et al. do not disclose this feature, but instead asserts that this feature is merely a method of operation, and that the decision of *In re Venezia*, 530 F.2d 956, 189 U.S.P.Q. 149 (C.C.P.A.), which indicates that the phrase “adapted to” sets forth “present structures or attributes,” does not apply since claim 17 recites “configured to” instead of “adapted to.” While the court discusses a claim that includes the language “adapted to,” any review of that decision makes plain that the court’s holding is not limited to the specific phrase “adapted to.” The position taken in the Examiner’s Answer is a matter of form rather than substance. In this regard, the court states that such language “rather than describing activities which may or may not occur, serves to precisely define present structural attributes.” *Id.* at 960. Similarly, the recitation of “[a] fuel-cell system, comprising . . . an oxidation device . . . wherein the oxidation device is configured to convert carbon monoxide into carbon dioxide by a reaction of carbon monoxide with oxygen supplied by the water injected by the water-injection device,” does not merely describe activities which may or may not occur, but rather serves to precisely define a present

structural attribute of the system and oxidation device, *i.e.*, they are structured so that the oxidation device performs the conversion with oxygen supplied by the injected water. For example, this may require an arrangement structured so that water is injected during oxidation of carbon monoxide to carbon dioxide. The apparatus of Kawatsu et al. is not structured as is the fuel-cell system of claim 17, and therefore does not constitute a disclosure of the fuel-cell system of claim 17.

The Examiner's Answer's reference to U.S. Patent No. 6,455,182 to Silver is inappropriate, since U.S. Patent No. 6,455,182 does not constitute prior art against the present application. In this regard, U.S. Patent No. 6,455,182 issued on September 24, 2002 from U.S. Patent Application Serial No. 09/852,333, filed on May 9, 2001. The present application entered the national stage on June 7, 2001 from PCT International Patent Application No. PCT/EP99/03378, having an international filing date of May 17, 1999. Since the May 17, 1999 international filing date predates the May 9, 2001 filing date of U.S. Patent No. 6,455,182, it is respectfully submitted that U.S. Patent No. 6,455,182 does not constitute prior art against the present application. Accordingly, it is respectfully submitted that any reliance on U.S. Patent No. 6,455,182 is entirely improper and that the present rejection should be reversed for this additional reason.

In view of all of the foregoing, it is respectfully submitted that, Kawatsu et al. do not anticipate claim 17.

As for claims 19, 30, and 31, which ultimately depend from claim 17 and therefore include all of the features recited in claim 17, it is respectfully submitted that Kawatsu et al. do not anticipate these dependent claims for at least the same reasons set forth above in support of the patentability of claim 17.

Claims 17, 22 to 25, and 28 to 30 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 5,630,679 ("Buswell et al.") and Kawatsu et al. For at least the reasons set forth below and in the Appeal Brief, the rejection of claims 17, 22 to 25, and 28 to 30 should be reversed.

As indicated above, claim 17 recites that the oxidation device is configured to convert carbon monoxide by a reaction with oxygen of water injected by the water-injection device, and that a reduced amount of a supplemental oxygen containing substance is supplied to the oxidation device based on the oxygen of the injected water. Claim 28 also recites these features.

As further indicated above, Kawatsu et al. do not disclose or suggest all of the features recited in claim 17. Similarly, Kawatsu et al. do not disclose or suggest all of the

features recited in claim 28. Buswell et al. are not relied upon for disclosing or suggesting the features recited in claims 17 and 28 not disclosed or suggested by Kawatsu et al. Indeed, it is respectfully submitted that Buswell et al. do not disclose or suggest the features recited in claims 17 and 28 not disclosed or suggested by Kawatsu et al. It is therefore respectfully submitted that the combination of Buswell et al. and Kawatsu et al. does not render unpatentable either of claims 17 and 28.

As for claims 22 to 25, and 30, which ultimately depend from claim 17 and therefore include all the features recited in claim 17, it is respectfully submitted that the combination of Buswell et al. and Kawatsu et al. does not render unpatentable these dependent claims for at least the same reasons set forth above in support of the patentability of claim 17. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988) (any dependent claim that depends from a non-obvious independent claim is non-obvious).

As for claim 29, which depends from claim 28 and therefore includes all the features recited in claim 28, it is respectfully submitted that the combination of Buswell et al. and Kawatsu et al. does not render unpatentable these dependent claims for at least the same reasons set forth above in support of the patentability of claim 28. *Id.*

Claims 17 to 21, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 6,165,633 (“Negishi”) and Kawatsu et al. For at least the reasons set forth below and in the Appeal Brief, the rejection of claims 17 to 21, 30, and 31 should be reversed.

As indicated above, claim 17 recites that the oxidation device is configured to convert carbon monoxide by a reaction with oxygen of water injected by the water-injection device, and that a reduced amount of a supplemental oxygen containing substance is supplied to the oxidation device based on the oxygen of the injected water. Claims 18 and 20 also recite these features.

As further indicated above, Kawatsu et al. do not disclose or suggest all of the features recited in claim 17. Similarly, Kawatsu et al. do not disclose or suggest all of the features recited in claims 18 and 20. Negishi is not relied upon for disclosing or suggesting the features recited in claims 17, 18, and 20 not disclosed or suggested by Kawatsu et al. Indeed, it is respectfully submitted that Negishi does not disclose or suggest the features recited in claims 17, 18, and 20 not disclosed or suggested by Kawatsu et al. It is therefore respectfully submitted that the combination of Negishi and Kawatsu et al. does not render unpatentable any of claims 17, 18, and 20.

Claims 19, 30, and 31 ultimately depend from claim 17 and therefore include all of the features recited in claim 17. It is therefore respectfully submitted that the combination of Negishi and Kawatsu et al. does not render unpatentable these dependent claims for at least the same reasons set forth above in support of the patentability of claim 17. *Id.*

Claim 21 depends from claim 20 and therefore includes all of the features recited in claim 20. It is therefore respectfully submitted that the combination of Negishi and Kawatsu et al. does not render unpatentable dependent claim 20 for at least the same reasons set forth above in support of the patentability of claim 21. *Id.*

Claims 17 to 19, 26, 27, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 6,077,620 (“Pettit”) and Kawatsu et al. For at least the reasons set forth below and in the Appeal Brief, the rejection of claims 17 to 19, 26, 30, and 31 should be reversed.

As indicated above, claims 17 and 18 recite that the oxidation device is configured to convert carbon monoxide by a reaction with oxygen of water injected by the water-injection device, and that a reduced amount of a supplemental oxygen containing substance is supplied to the oxidation device based on the oxygen of the injected water. Claim 26 also recites these features.

As further indicated above, Kawatsu et al. do not disclose or suggest all of the features recited in claims 17 and 18. Similarly, Kawatsu et al. do not disclose or suggest all of the features recited in claim 26. Pettit is not relied upon for disclosing or suggesting the features recited in claims 17, 18, and 26 not disclosed or suggested by Kawatsu et al. Indeed, it is respectfully submitted that Pettit does not disclose or suggest the features recited in claims 17, 18, and 26 not disclosed or suggested by Kawatsu et al. It is therefore respectfully submitted that the combination of Pettit and Kawatsu et al. does not render unpatentable any of claims 17, 18, and 26.

Claims 19, 30, and 31 ultimately depend from claim 17 and therefore include all of the features recited in claim 17. It is therefore respectfully submitted that combination of Pettit and Kawatsu et al. does not render unpatentable these dependent claims for at least the same reasons set forth above in support of the patentability of claim 17. *Id.*

Claim 27 depends from claim 26 and therefore includes all of the features recited in claim 26. It is therefore respectfully submitted that combination of Pettit and Kawatsu et al. does not render unpatentable dependent claim 27 for at least the same reasons set forth above in support of the patentability of claim 26. *Id.*

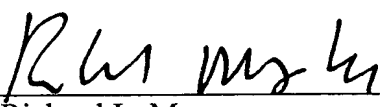
For the foregoing reasons and for the reasons more fully set forth in the Appeal Brief, it is respectfully submitted that the final rejections of the pending claims should be reversed.

Respectfully submitted,

KENYON & KENYON

Dated: August 26, 2005

By:


Richard L. Mayer
Registration No. 22,490

*BN 42,194
(Clifford A. Miller)*

KENYON & KENYON
One Broadway
New York, New York 10004
(212) 425-7200
CUSTOMER NO. 26646